

*REMARKS/ARGUMENTS*

In response to the Office Action mailed October 19, 2005, Applicant amends his application and requests reconsideration. In this Amendment, claims 2, 9, and 10 are cancelled and new claims 12-16 are added so that claims 1, 3-8, and 11-16 are now pending.

Claims 8, 9, and 11 were stated to be allowable if rewritten in independent form. As explained below, that step has been substantially taken with regard to claim 8.

The invention concerns an apparatus for changing an optical signal that is phase-modulated and which is at a first wavelength to correspondingly phase-modulated light but at a second wavelength. Apparatus for accomplishing this task is known in the art. However, as explained in the patent application, the known apparatus provides low conversion efficiency, i.e., there is substantial light loss in the conversion. Several embodiments of the invention are illustrated and described in the patent application.

In this Amendment claim 2 is substantially rewritten in independent form as amended claim 1. This claim encompasses the embodiment of Figure 1 of the patent application. Claim 8, which clearly pertains to the embodiment of the invention illustrated in Figure 3 of the patent application, has been substantially rewritten in independent form. New independent claim 15 has been added to the patent application and is particularly directed to the embodiment of the invention illustrated in Figure 2 of the patent application.

The respective groups of dependent claims are clearly supported by the same disclosure that supports the respective parent claims. Claims 12 and 13 are directed to the optical circulators illustrated in the embodiment of Figure 1. New claim 14 is directed to the optical circulator illustrated in the embodiment of Figure 3 of the patent application. Dependent claim 11, a claim indicated to be allowable, particularly pertains to the embodiment of Figure 4 of the patent application, a variation of the embodiment of Figure 3. Thus, claim 11 has been made dependent from claim 15, a claim encompassing the embodiment of Figure 2. New claim 16 relates to the optical circulator 15 that

appears in the embodiments of the invention illustrated in Figures 2 and 4 of the patent application.

In view of the concession that claim 8, if rewritten in independent form, would be allowed, that claim and its dependent claims 3, 5, 7, and 14 are clearly allowable and do not need further discussion.

Claims 1-3 were rejected as obvious over Ueno et al. (U.S. Patent 6,282,015, hereinafter Ueno), considered by itself. This rejection is respectfully traversed with regard to amended claim 1, the only claim to which the rejection still might pertain. Claim 3, as examined, depended from claim 1, but now depends from claim 8, an allowable claim. Thus, there is no reason to comment on the rejection of examined claim 3.

The Office Action is clear in its application of the apparatus schematically illustrated in Figure 1A of Ueno to examined claim 1. However, the Office Action does not explain how Ueno suggests examined claim 2. The apparatus of examined 2 includes an injection synchronization laser diode generating continuous light at the first wavelength, i.e., the same wavelength as the phase-modulated input light. The only such light supplied to the apparatus in Figure 1A of Ueno is the light at the second wavelength, not the input light at the first wavelength. Further, amended claim 1 expressly describes the presence of such a laser producing light at the second wavelength, i.e., a light source that was not expressly described in examined claims 1-3. Not only is there an absence of any light source in Ueno's Figure 1A that could correspond to the injection synchronization laser diode of examined claim 2 and amended claim 1, there is no port for input of such light in the apparatus of Figure 1A of Ueno. Therefore, amended claim 2 cannot be obvious in view of Ueno. Upon reconsideration, the rejection of examined claims 1 and 2 should be withdrawn with respect to amended claim 1 and not applied with respect to any of the dependent claims.

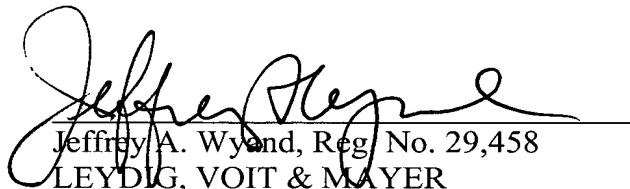
Claims 4 and 5 were rejected as unpatentable over Ueno in view of Leuthold (U.S. Patent 6,646,784). The rejection is moot as to amended claim 5, which depends from claim 8. With regard to the rejection of claim 4, since Ueno fails to describe or suggest the invention as described in amended claim 1, the addition of Leuthold to meet the

limitation of claim 4 would still fail to establish *prima facie* obviousness as to amended claim 1.

Claims 6 and 7 were rejected as unpatentable over Ueno in view of Edagawa et al. (U.S. Patent 6,515,793, hereinafter Edagawa). The rejection of claim 7 is moot in view of the dependence of claim 7 from independent claim 8. The rejection of claim 6 is traversed because, as with Leuthold, Edagawa, even if it should supply the limitation of claim 6, does not supply the limitations of amended claim 1 that are absent from Ueno. Therefore, this rejection should be withdrawn.

Reconsideration with respect to the claims now presented and prompt issuance of a Notice of Allowance are earnestly solicited.

Respectfully submitted,



Jeffrey A. Wyand, Reg. No. 29,458  
LEYDIG, VOIT & MAYER  
700 Thirteenth Street, N.W., Suite 300  
Washington, DC 20005-3960  
(202) 737-6770 (telephone)  
(202) 737-6776 (facsimile)

Date: December 10, 2005  
JAW:ves